

US-PAT-NO: 6687414

DOCUMENT-IDENTIFIER: US 6687414 B1

TITLE: Method and system for
normalizing a plurality of signals
having a shared component

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	STATE	ZIP CODE	CITY	COUNTRY
Edgar; Albert D.			Austin	
TX		N/A		N/A

APPL-NO: 09/ 551129

DATE FILED: April 18, 2000

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

The application claims the benefit of U.S. Provisional Application Serial No. 60/150,368, filed Aug. 20, 1999 by Albert Edgar, and entitled, "Method and System for Normalizing a Plurality of Signals Having a Shared Component".

This application is related to U.S. application Ser. No. 09/551,486, filed on Aug. 18, 2000 by Albert Edgar, entitled, "Method and Apparatus to Automatically Enhance the Quality of Digital Images".

This application is related to U.S. application

Ser. No. 09/551,785, filed
on Aug. 18, 2000 by Albert Edgar, entitled,
"Method and System for Enhancing
Digital Images".

US-CL-CURRENT: 382/275, 345/611 , 345/616 ,
358/447 , 358/463 , **358/518**
382/167 , **382/252** , 382/260 ,
382/274

ABSTRACT:

One aspect of the invention is a method for normalizing a plurality of signals wherein the plurality of signals have a shared component and wherein at least one of the signals has been distorted in a nonlinear way. A distortion function is determined for at least one of the signals which is proportional to the distortion of that signal relative to at least one of the remaining signals. An inverse relative distortion function is generated for the distorted signal responsive to the distortion function that was determined for that signal. The signal is normalized by applying the inverse relative distortion function that was generated for the distorted signal.

56 Claims, 21 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

----- KWIC -----

Detailed Description Text - DETX (161):

In step 1712, a plurality of segments of each of the image channels are transformed from the spatial domain to the frequency domain. If high frequency noise is being removed only from a subset of the plurality of image channels, then only those image channels may be transformed or all image channels may be transformed. In other words, if noise is to be removed only from a single channel, the information from the other channels could either be used or not be used to determine the noise content of the channel where noise is to be removed. The segmentation and transformation of each channel may occur according to the methods described above in connection with noise normalization. Any method of segmenting the image channels can be used and any transform from the spatial domain to the frequency domain can be used. In this embodiment, a segment size of 16 pixels by 16 pixels has been chosen. Other segment sizes could be chosen without departing from the scope of the invention. In addition, as described above, the segments could overlap without departing from the scope of the invention. Similarly, other segment shapes could be used without departing from the scope of the invention. Varying shaped and sized segments could also be used.

Current US Cross Reference Classification - CCXR
(5):

358/518

Current US Cross Reference Classification - CCXR
(6):
382/167